

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Docket No: Q96256

Yoshihide KAWAGUCHI, et al.

Appln. No.: 10/587,842

Group Art Unit: 1756

Confirmation No.: 2299

Examiner: Not yet assigned

Filed: July 28, 2006

For: OPTICAL REFRACTIVE INDEX-MODIFYING POLYMER COMPOSITION, HOLOGRAM  
RECORDING MATERIAL AND METHOD OF CONTROLLING REFRACTIVE INDEX

**SUBMISSION OF ENGLISH TRANSLATION OF THE PRELIMINARY REPORT ON  
PATENTABILITY**

**MAIL STOP AMENDMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

For the Examiner's convenience, enclosed herewith is a copy of an English translation of the International Preliminary Report on Patentability dated July 19, 2007, for the above-identified application. It is noted that the four (4) references cited in the Report were previously listed on the PTO/SB/08 form submitted with the Information Disclosure Statement filed in the U.S. Patent and Trademark Office on July 28, 2006.

Respectfully submitted,



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**65565**

CUSTOMER NUMBER

Date: August 9, 2007

## PATENT COOPERATION TREATY

PCT/JP2006/300085

From the INTERNATIONAL BUREAU

**PCT**

NOTIFICATION CONCERNING  
TRANSMITTAL OF COPY OF INTERNATIONAL  
PRELIMINARY REPORT ON PATENTABILITY  
(CHAPTER I OF THE PATENT COOPERATION  
TREATY)

(PCT Rule 44bis.1(c))

To:

NAITO, Teruo  
Shin-ei Patent Office  
7-13, Nishi-Shimbashi 1-chome  
Minato-ku, Tokyo 1060003  
JAPON



Date of mailing (day/month/year)  
19 July 2007 (19.07.2007)

Applicant's or agent's file reference  
F1821WO

1204423

## IMPORTANT NOTICE

International application No.  
PCT/JP2006/300085

International filing date (day/month/year)  
06 January 2006 (06.01.2006)

Priority date (day/month/year)  
07 January 2005 (07.01.2005)

Applicant

NITTO DENKO CORPORATION et al

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Masashi Honda

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Form PCT/IB/326 (January 2004)

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference F1821WO	FOR FURTHER ACTION		See item 4 below
International application No. PCT/JP2006/300085	International filing date (day/month/year) 06 January 2006 (06.01.2006)	Priority date (day/month/year) 07 January 2005 (07.01.2005)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant NITTO DENKO CORPORATION			

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).		
2.	This REPORT consists of a total of 4 sheets, including this cover sheet.  In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.		
3.	This report contains indications relating to the following items:		
	<input checked="" type="checkbox"/> Box No. I	Basis of the report	
	<input type="checkbox"/> Box No. II	Priority	
	<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	
	<input type="checkbox"/> Box No. IV	Lack of unity of invention	
	<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	
	<input type="checkbox"/> Box No. VI	Certain documents cited	
	<input type="checkbox"/> Box No. VII	Certain defects in the international application	
	<input type="checkbox"/> Box No. VIII	Certain observations on the international application	
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).		

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 338 82 70	Date of issuance of this report 10 July 2007 (10.07.2007)
	Authorized officer  Masashi Honda  e-mail: pct@wipo.int

Form PCT/IB/373 (January 2004)

## PATENT COOPERATION TREATY

PCT/JP2006/300085

From the INTERNATIONAL BUREAU

## PCT

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

NAITO, Teruo  
Shin-ei Patent Office  
7-13, Nishi-Shimbashi 1-chome  
Minato-ku, Tokyo 1050003  
JAPON



Date of mailing (day/month/year)  
19 July 2007 (19.07.2007)

Applicant's or agent's file reference  
F1821WO

1204423

## IMPORTANT NOTIFICATION

International application No.  
PCT/JP2006/300085

International filing date (day/month/year)  
06 January 2006 (06.01.2006)

Applicant

NITTO DENKO CORPORATION et al

## 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

EP

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Masashi Honda

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e-mail: pct@wipo.int

Form PCT/IB/338 (January 2004)

# PATENT COOPERATION TREATY

TRANSLATION

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43b/s.1)

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

Date of mailing (day/month/year)
FOR FURTHER ACTION See paragraph 2 below
Applicant's or agent's file reference <b>F1821WO</b>
International application No. <b>PCT/JP2006/300085</b>
International filing date (day/month/year) <b>06.01.2006</b>
Priority date (day/month/year) <b>07.01.2005</b>
International Patent Classification (IPC) or both national classification and IPC
Applicant <b>NITTO DENKO CORPORATION</b>

1. This opinion contains indications relating to the following items:

- |                                     |              |  |
|-------------------------------------|--------------|--|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the opinion   |
| <input type="checkbox"/>            | Box No. II   | Priority   |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability   |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention   |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Rule 43b/s.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited  |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application   |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application  |

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2006/300085

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:  
☒ the international application in the language in which it was filed  
☐ the translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rule 12.2(a) and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ on paper  
☐ in electronic form
  - c. time of filing/furnishing  
☐ contained in the international application as filed  
☐ filed together with the international application in electronic form  
☐ furnished subsequently to this Authority for the purposes of search
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2006/300085

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims 1-10	YES	
	Claims	NO	
Inventive step (IS)	Claims 1-10	YES	
	Claims	NO	
Industrial applicability (IA)	Claims 1-10	YES	
	Claims	NO	
2. Citations and explanations:			
<p>The subject matters of claims 1-10 appear to be novel and to involve an inventive step, since they are not disclosed in any of the documents cited in the ISR.</p> <p>Especially, none of a photorefractive index modulating polymer composition characterized by being composed of, as a main component, polymer (A) being a polymer of monomers containing as an essential component an acryl/vinyl monomer of the formula (1)</p> $\text{CH}_2=\text{C}(\text{R}^1)-\text{C}(=\text{O})\text{O}-\text{R}^2-\text{CH}_2$ <p>(wherein R<sup>1</sup> is a hydrogen atom or methyl, and R<sup>2</sup> is a C<sub>1</sub>-C<sub>20</sub> saturated or unsaturated hydrocarbon group that may contain a heteroatom or halogen atom in the molecule thereof) in which in the molecule thereof, there remain side chain vinyl groups capable of radical polymerization and, per 100 pts.wt. of polymer (A), 5 to 60 pts.wt. of thermosetting polymer (B); a hologram recording material comprising said composition; and a method of refractive index control utilizing said composition, are disclosed in any of the cited documents.</p> <p>&lt;Prior art documents&gt;            JP, 2003-147017, A (Fuji Photo Film Co., Ltd.), 21 May, 2003 (21.05.03)            JP, 9-230594, A (Fuji Photo Film Co., Ltd.), 05 September, 1997 (05.09.97)            JP, 9-106240, A (Toyo Ink Manufacturing Co., Ltd.), 22 April, 1997 (22.04.97)            JP, 7-70399, A (Daicel Chemical Industries, Ltd.), 14 March, 1995 (14.03.95)</p>			